DRILL

① Factor out GCF: $8x^3y^2 + 12x^2y^2 - 20x^1y^2$

$\boxed{4xy^2(2x^2+3x-5)}$ *

② Factor by Grouping: $[6x^2 - 9x^1][+14xy - 21y]$

(4 terms)

$3x(2x-3) + 7y(2x-3)$

$\boxed{(2x-3)(3x+7y)}$

Factoring Trinomials ax^2+bx+c

Ex: $(x+4)(x+3) = 1x^2 + 3x + 4x + 12$

$= \boxed{x^2 + 7x + 12}$

ADD

MULTIPLY

* when $a=1$

$1x^2 + \_x + \_$

$x^2 + bx + c$

Factor $(x+\#)(x+\#)$

Multiply to get c

Add to get b

FACTOR

$(a = 1)$

Ex:

1) $x^2 + 9x + 18 = \boxed{(x+3)(x+6)}$

2) $x^2 + 12x + 20 = \boxed{(x+2)(x+10)}$

3) $x^2 + 8x + 12 = \boxed{(x+6)(x+2)}$

ADD MULT

RULE

$x^2 + bx - c = (x + \text{Bigger \#})(x - \text{Smaller \#})$

$x^2 - bx - c = (x + \text{Smaller \#})(x - \text{Bigger \#})$

$x^2 - bx + c = (x - \quad)(x - \quad)$

ADD Mult

FACTOR:

Ex:

① $x^2 + 3x - 18 = (x+6)(x-3)$

ADD MULT

② $x^2 - 4x - 32 = (x+4)(x-8)$

ADD MULT

③ $x^2 - 9x + 18 = (x-3)(x-6)$

ADD MULT

1 32
2 16
$\boxed{4 \quad 8}$

FACTOR

$(x \quad)(x \quad)$

✓ ① $x^2 + 11x + 24 = (x+3)(x+8)$

ADD MULT

✓ ② $x^2 - 4x - 12 = (x+2)(x-6)$

6, 2

✓ ③ $x^2 + 5x - 24 = (x+8)(x-3)$

8 3